

REMARKS

This communication is a full and timely response to the Office Action dated January 5, 2009. Claims 1-10 remain pending. By this communication, claims 1-10 are amended. Support for the amended subject matter can be found, for example, in original claim 8 and on page 3, lines 22-23 of Applicants' disclosure.

In numbered paragraph 5 on page 2 of the Office Action, the Abstract is objected to for alleged informalities. Applicants respectfully traverse this objection. However, in an effort to expedite prosecution, the Abstract is amended to address the Examiner's concerns. Withdrawal of this objection, therefore, is respectfully requested.

In numbered paragraph 8 on page 2 of the Office Action, claim 7 is objected to for alleged informalities. Applicants respectfully traverse this objection, however, in an effort to expedite prosecution, claim 7 is amended to address the Examiner's concerns.

In numbered paragraph 11 on page 3 of the Office Action, claims 8-10 stand rejected under 35 U.S.C. §101 for allegedly being directed to non-statutory subject matter. Applicants respectfully traverse this rejection.

Claim 8 is amended to more clearly and concisely recite the exemplary embodiment. Furthermore, Applicants believe that the recitation of an input buffer when taken in context of the claims as a whole, does not render claims 8-10 non-statutory as alleged by the Examiner.

In deciding *In re Bilski*, the Federal Circuit stated, "[o]f course, a claimed process wherein all of the process steps may be performed entirely in a human mind

is obviously not tied to any machine and does not transform any article into a different state or thing. As a result, it would not be patent-eligible under §101."

Because the combination of features recited in Applicants' claim cannot be entirely implemented in the human mind, Applicants respectfully submit that the capability to communicate between different IT systems as recited in the claims provides sufficient structure to tie the claimed embodiments to a machine. For at least this reason, withdrawal of this rejection is respectfully requested.

In numbered paragraph 13 on page 4 of the Office Action, claims 1 and 3-9 are rejected under 35 U.S.C. §103(a) for alleged unpatentability over *Tindal et al* (U.S. Patent Publication No. 2002/0069274) in view of *Stallings* ("SNMP and SNMPv2: The Infrastructure for Network Management.") Applicants respectfully traverse this rejection.

As shown in Figs. 1-4, exemplary embodiments are directed to "utilities," i.e., companies tasked with distributing certain goods such as electricity, energy or water to the residents within the utilities' geographical range. To this purpose, the utilities own a very large number of physical "real-world" assets, i.e., components or "primary devices" that fulfill a certain function according to the operation of the utilities, e.g., switching electrical power or monitoring a process quantity. These components are generally not intelligent, i.e., they do not comprise a CPU and are not connected to a communication or computer network.

The assets or components have properties or parameters that are referred to in various IT systems of the utility. These IT systems belong to various source applications directed to operational aspects (e.g., SCADA = supervisory control and data acquisition) or maintenance aspects (e.g. CMMS - computerized maintenance

management systems) related to the usage or wear of the assets in distributing the above-mentioned goods. In order to represent the assets or components, a single physical asset of the utility is modeled as an entity or software object in the data sets of the IT systems of the various applications, with the properties of the asset being assigned to specific attributes of the entity.

In order to enable a consistency service to access the actual attribute values of an entity, reference or meta-information about the entity is stored in a storage device. This information comprises, e.g., a local identifier in order to access the entity in the application, and an application identifier which allows the consistency service to direct any requests related to that entity to an adapter of the IT system of the application. The adaptor is used to acquire and translate the requested information from the application via a polling mechanism and without a need for modifying the application. The reference information is the single source that has to be updated in case the utility adds new IT systems or applications.

It is to be noted that the reference information above is to be distinguished from the reference values of the attributes as stored in the consistency service itself. The latter are compared to the actual attribute values as retrieved from the data sets of the different IT systems by the consistency service.

Applicants' claims broadly encompass the foregoing features. For example, representative claim 1 recites the following

A method that validates a consistency of attributes of entities modeling a physical asset of a utility, said entities are stored in data sets of a multitude of different IT systems of the entity,
wherein said entities are assigned to entity types, holding a list of available attributes,
wherein a consistency service includes
an input buffer in which an entity to be validated for consistency of its attributes can be placed,

output means in which the result of the consistency validation can be stored and

communication means to communicate with the different IT systems, wherein an adapter for each of the IT systems allows communication between the consistency service and the IT systems, and

wherein a reference storage holds references to the entities in the data sets of the various IT systems such that a specific entity in a specific IT system can be addressed through the adapter of the specific IT system and based on such a reference stored in the reference storage,

said method comprising the following steps:

loading the entity to be validated for consistency of its attributes into the buffer of the consistency service,

reading the values of the attributes of the entity through the adapter of an IT system,

comparing the values of the attributes to values of reference attributes stored in the consistency service, and

storing consistency validating information in the output means, said consistency validating information depending on the results of the comparison of the values of the attributes to the values of the reference attributes.

The *Tindal* and *Stallings* documents fail to establish a prima facie case of obviousness as alleged.

Tindal is concerned with a simplified (re-) configuration of (computer) networks comprising network devices such as routers, optical devices and the like from different manufacturers. To this purpose, a central repository for all configuration information is proposed, from which a network manager unit can retrieve a configuration record unique to a selected network device (paragraph 12). Following a change made to the configuration record (by an operator), the unit generates device specific commands and dispatches these to the network device (paragraph 13). The network devices of DI are intelligent "secondary devices" exclusively serving the purpose of information exchange.

The unit network manager comprises a directory 165 with configuration storage 187 storing the intended device configuration, and a reader module 195 for communicating with a target network device and retrieving the device's actual configuration from the device (paragraph 42). One of ordinary skill would understand

that the configuration storage 187 does not store a reference information indicating how to access the device, but rather the (intended) configuration information of the device itself.

According to *Tindal*, there are intended or reference (centrally stored) attribute values of a target network device, as well as actual values as stored on the (intelligent) network device itself. Only the network manager unit as a configuring device and the configured network device are mentioned.

In numbered paragraph 13 of the Office Action, a number of allegations are made regarding features of the present invention and their equivalents in *Tindal*.

A: The Examiner alleges that the network devices of *Tindal* are found equivalent to the IT systems recited in the claims.

Applicant disagrees as the entities of the present invention relate to physical assets of a utility that are represented in various IT systems. An exemplary IT system as illustrated and described in the disclosure (SCADA, CMMS, GIS) serves a *specific*, utility oriented purpose, and is defined by the system or purpose specific data.

The network devices of *Tindal* are intelligent electronic devices a) which do not require maintenance as do the physical assets or components of the utility that are responsible for distributing goods, and b) for which no representation in any of the other IT systems is required. A single component such as an exemplary network device of *Tindal* that is just forwarding or routing data, independently of any significance of the latter, cannot be considered to be, or to anticipate, an IT system as described in the disclosure and broadly recited in the claims.

In addition, that configuration records of multiple network devices are not equivalent to a multitude of different entities stored in [data sets of] a multitude of different IT systems. The entities possibly have a multitude of different / diverging actual values (in the worst case, a different one for each IT system) not just one actual and one intended configuration [value] as in *Tindal*, where for each network device, exactly one actual and one intended configuration are present.

In other words, the present invention is concerned with one single physical asset represented as entities in a plurality of IT systems, and not with representing the equipment of the IT system itself.

B: The **reference information** of the present invention is found to be disclosed by *Tindal*.

As mentioned above, the reference information in the storage devices is to be distinguished from the reference values of the attributes as stored in the consistency service itself. Only the latter may be regarded equivalent to the intended or reference attribute values of *Tindal*. In other words, the configuration storage 187 of *Tindal* stores the intended configuration of a specific network device, rather than a reference information indicating how to access the data. In the pure communication system of *Tindal*, the latter need not be specified, as network devices are referred to and accessed via their unique IP or MAC address directly. According to the present invention, the “references to the entities” are specifically indicating how to access the data. This understanding is supported by the term “such that” in claim 1, which indicates that the access is enabled based on a reference stored in the reference storage.

In addition, *Tindal* discloses a configuration reader 195 as a “device-specific” adapter, which is different from the “IT system - specific” adaptor according to the invention. The latter is different from one IT system to the other, but is the same for all the entities in a single IT system.

In short, *Tindal* does not disclose a multitude of IT systems or applications (e.g. SCADA, CMMS, GIS) that refer to a single asset or component of a utility in terms of the present invention, and that have the potential to assign different (and thus conflicting) values to an attribute of the various entities representing the asset. Likewise, the centrally stored reference information about the entities in the various IT systems and the IT system specific adaptors and are not disclosed either.

In view of the above, the subject matter of the present independent claims, even when considering the fact that the “existence checking signal” feature of the adapter has been moved, is not anticipated by *Tindal*. Furthermore, it is not apparent why, let alone how, *Tindal's* method of comparing two configurations within the same system should be applied to a multitude of single-asset values across a multitude of IT systems.

In summary, the combination of *Tindal* and *Stallings* fails to disclose or suggest every element and/or the combination of elements recited in Applicants' claims. For at least this reason, and those discussed in detail above, a *prima facie* case of obviousness has not been established. Accordingly, withdrawal of this rejection is respectfully requested.

In numbered paragraph 14 on page 10 of the Office Action, claims 2 and 10 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Tindal et al* in view of *Stallings* and further in view of Menezes et al (“Hash functions and data

integrity" Handbook of applied cryptography). Applicants respectfully traverse this rejection.

Because claims 2 and 10 variously depend from independent claims 1 and 8, respectively, Applicants respectfully submit that these claims are allowable for at least the same reasons discussed above with regard to their respective base claim. In addition, these claims are further distinguishable over the applied references by virtue of the additional features recited therein. Thus, because *Menezes* fails to remedy the deficiencies of *Tindal* and *Stallings* with regard to the combination of features recited in independent claims 1 and 8, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. Withdrawal of this rejection is respectfully requested.

Conclusion

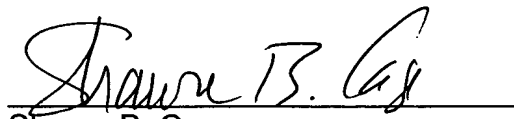
Based on the foregoing amendments and remarks, Applicants respectfully submit that claims 1-10 are allowable and this application is in condition for allowance. In the event any unresolved issues remain, the Examiner is encouraged to contact Applicants' representative identified below.

Respectfully submitted,

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